

REMARKS

This Amendment responds to the Office Action mailed on August 21, 2007. Claim 23 is amended. Reconsideration is respectfully requested in light of this amendment and the following remarks.

Examiner's Interview

The undersigned thanks Examiner Lau for the courtesies extended during a telephone interview on January 15, 2008. During the interview the pending rejections and the cited Yoshida (JP 07-241039) and Komata (JP 2001-330654) references were discussed. In particular, during the interview the Examiner reconsidered his rejections in light of the translations of the Yoshida and Komata references submitted by the applicant in an IDS. For brevity, the discussion was limited to the rejection of claim 23. After reviewing the rejection and the translated prior art documents with the undersigned, Examiner Lau agreed that the limitations of claim 23 relating to "determining an unloaded operational threshold voltage based on the loaded operational threshold voltage" do not appear to be disclosed in the cited references. The Examiner indicated, however, that he would need to closely review the translations of the Yoshida and Komata references before withdrawing the rejections. In addition, Examiner Lau suggested that claim 23 be amended as set forth above to clarify that the first two method steps are measurements. The remarks contained herein further summarize the interview.

Rejections under 35 U.S.C. § 103

The claims stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Yoshida and Komata references. These rejections are respectfully traversed.

Independent Claim 23:

Independent claim 23 is patentably distinct from the cited references, either alone or in combination. Among other distinctions, neither of the cited references teach or suggest the claimed

steps of determining a loaded operational threshold voltage below which an operation of the mobile device is shut off, and then determining an unloaded operational threshold voltage based on the loaded operational threshold voltage and one or more measured operating conditions of the device. That is, the method of claim 23 measures one or more operating condition (e.g., temperature) of a mobile device and determines a loaded operational threshold voltage below which a device operation will shut off. The method then uses these parameters to determine an unloaded operational threshold voltage. As discussed with Examiner Lau during the January 15 telephone interview, the cited references do not contemplate these claimed operations.

The Office Action identifies the voltage value V_D shown in Figures 4a and 4b of the Yoshida reference as corresponding to the loaded operational threshold voltage recited in claim 23. The Office Action then cites to paragraph 0018 of Yoshida as disclosing the step of “determining an unloaded operational threshold voltage of the mobile device based on the loaded operational threshold voltage and the one or more operating condition.” These conclusions of the Office Action are clearly incorrect.¹

As explained at paragraph 0024 of Yoshida, the voltage value V_D shown in Figures 4a and 4b indicates the power source voltage at which the wireless modem ceases to be able to operate. In addition, paragraph 0018 of Yoshida cited in the Office Action describes another voltage value, V_T , which is also shown in Figures 4a and 4b. The voltage value V_T is a safety critical value for the power source voltage at which the wireless modem can operate normally. (See, Yoshida, paragraph 0024). However, neither of these voltage values, V_D or V_T , shown in Fig. 4 of Yoshida relate to an unloaded operational threshold voltages as set forth in claim 23. Moreover, even if one could consider the voltage value V_D to be a loaded operational threshold and the voltage value V_T to be an unloaded operational threshold, V_T is clearly not derived from V_D . The Yoshida reference therefore

¹ It may be noted that the Office Action was based on poor quality machine translations of the Yoshida and Komata references.

does not disclose the step of “determining an unloaded operational threshold voltage of the mobile device based on the loaded operational threshold voltage and the one or more operating conditions.” Nor does the cited Komata reference cure this deficiency. Accordingly, independent claim 23, along with its dependent claims, are patentably distinct from the cited references and are in condition for allowance.

Independent claim 37:

Independent claim 37 recites the step of “determining at least one unloaded shut off voltage by translating the shut off voltage to take into account the load on the battery.” The preamble of claim 37 explains that the shut off voltage is a voltage that is required to power a predetermined feature of the device. Similar to the rejection of claim 23, the Office Action cites to Figs. 4a, 4b and paragraph 0018 of the Yoshida reference as corresponding to these claim limitations. However, as explained above, the teachings of the Yoshida reference do not relate to an unloaded shut off voltage. Moreover, even if one of the voltage values in Fig. 4 of Yoshida could properly be construed as an unloaded shut off voltage, there is no suggestion of determining an unloaded threshold voltage by translating another threshold voltage to account for the load on the battery. For at least this reason, claim 37 and its dependent claims are patentable over the cited references and are in condition for allowance.


Independent claim 48:

Similar to claim 23, claim 48 recites the operations of determining a loaded operational threshold voltage of the mobile device and determining an unloaded operational threshold voltage based on the loaded operational threshold voltage and one or more measured operating parameters of the device. Claim 48 and its dependent claims are therefore patentable over the cited references for at least the same reasons as claim 23.

Conclusion

For at least the above reasons, the applicant submits that the claims are in condition for allowance, and allowance is respectfully requested.

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